Ausschreibung: HiWi, Forschungspraxis, IDP

Hardware Development using the Amazon EC2 F1 Instances

Motivation and Task Description
Since recently, we have seen a new trend in the world of cloud computing. Traditional cloud computing services such as Amazon web services, Microsoft Azure and Baidu FPGA cloud compute, amongst others, are now including FPGAs in their environment. These services help designers accelerate the development and deployment of custom hardware accelerators. In some cases designers can also buy and sell accelerators through the respective marketplaces. This revolutionary step is changing the way the data centers are moving towards accelerated computing.

The EC2 F1 instance from the Amazon web services include Xilinx Ultrascale+ FPGA alongside the traditional cloud computing platform. Your task is to set-up various Amazon EC2 F1 instances with custom hardware accelerators. You would need to develop a framework to automate the load and test of hardware accelerators on instances on the Amazon FPGA array.

Requirements
- VHDL programming
- C programming
- Vivado design suite
- Create and independent working style

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